

# Groundwater Summary

Pinedale Anticline Working Group, February 7<sup>th</sup> 2012



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# What is currently tested for?

## Field parameters

- pH
- Temperature
- Conductivity
- Total Dissolved Solids (TDS)
- Water level when possible

## Lab analysis

- Alkalinity
- Calcium
- Chloride
- Fluoride
- Magnesium
- Potassium
- Sodium
- Sulfate
- Conductivity
- Total Dissolved Solids (TDS)
- Gasoline Range Organics (GRO)
- Diesel Range Organics (DRO)

## BTEX SW 8021 B (as needed)

- Benzene
- Ethylbenzene
- m+p-Xylenes
- o-Xylene
- Toluene

## BTEX SW 8260 B extended list (as needed)

Same parameters as  
BTEX 8021B plus 72 other  
parameters



# Changes in Hydrocarbon (Organics) Testing

## 2004

- Non-Polar was used every time / no detections

## 2005

- Non-Polar was used approximately every 10<sup>th</sup> sample / no detections

## 2006 & 2007

- Non-Polar was used approximately every 10<sup>th</sup> sample/ started getting detections
  - confirmation samples collected, with GRO and BTEX 8021B added to analysis

## 2008 & 2009

- Non-Polar was no longer used, instead GRO and DRO would be used, every time
  - confirmation samples collected, with BTEX 8021B being added to analysis

## 2010 & 2011

- GRO and DRO every time
  - confirmation samples collected, with BTEX 8021B and BTEX 8260B being added to analysis

wells with previous hydrocarbon detections,  
**final results** show “non-detect”

wells with detections below WDEQ clean-up  
levels **from latest samples collected**

wells with detections at or above WDEQ clean-  
up levels **from latest samples collected**

AMI: Miscellaneous-use / AD: Domestic-use / AS: Stock-use  
detection category placement based on DRO, GRO and BTEX method 8021 results

2007

AMI235  
AMI261  
AMI270  
(3)

2006

AMI252  
(1)

AMI186  
AMI235  
AMI270  
(3)

AMI140  
(1)

AMI140  
AMI149  
AMI186  
AMI199  
AMI252\*  
(5)

AMI187  
AMI237  
(2)

2008

AMI140  
AMI149\*  
AMI151\*  
AMI162  
AMI186  
AMI192  
AMI199  
AMI235  
AMI261  
AMI270  
(10)

AD213  
AMI017  
AMI033  
AMI079  
AMI132  
AMI160  
AMI198  
AMI209  
AMI210\*  
AMI213  
AMI233  
AMI237  
AMI255  
AMI258  
AMI285  
AS014  
(16)

AMI146  
AMI182  
AMI187  
(3)

2009

AD213  
AD223  
AD238\*\*  
AMI079\*  
AMI132  
AMI140  
AMI160  
AMI162  
AMI186  
AMI192\*  
AMI199  
AMI209  
AMI235\*  
AMI261  
AMI270  
AMI285  
AS014  
(17)

AMI017  
AMI033  
AMI043  
AMI134  
AMI182  
AMI198  
AMI213\*\*  
AMI228  
AMI233\*  
AMI255\*  
AMI258  
AMI265\*  
AMI279  
AMI301  
(14)

AMI146  
AMI237  
(2)

2010

AD213  
AD223  
AMI043  
AMI132  
AMI134  
AMI140  
AMI160  
AMI186  
AMI198  
AMI199  
AMI209  
AMI240  
AMI261  
AMI270  
AMI279\*\*\*  
AMI301  
AS014  
(17)

AMI017\*  
AMI033  
AMI162\*\*\*  
AMI228  
AS064  
(5)

[AMI146]  
[AMI182]  
AMI187\*\*  
AMI214  
AMI237  
AMI258  
AMI285  
(7)

2011

AD213  
AD218  
AD223  
AMI033  
AMI043  
AMI132  
AMI140  
AMI160  
AMI186  
AMI198  
AMI199  
AMI209  
AMI240  
AMI258  
AMI261  
AMI270  
AMI285  
AMI301  
AS013  
AS014  
AS064  
(21)

AMI134  
AMI145  
AMI156  
AMI214  
AMI228  
(5)

[AMI146]  
[AMI182]  
AMI237  
(3)

\* well has since been plugged & abandoned

\*\* well is no longer part of SCCD sampling program

\*\*\* BTEX was not analyzed in 2011

Underline color indicates which detection category  
the well was in the previous year

[ ] well can be placed into different detection  
category depending on BTEX method used

# 

#### 

- Hydrocarbon detections under WYDEQ clean-up levels
- Hydrocarbon detections over WYDEQ clean-up levels
- Hydrocarbons non-detectable

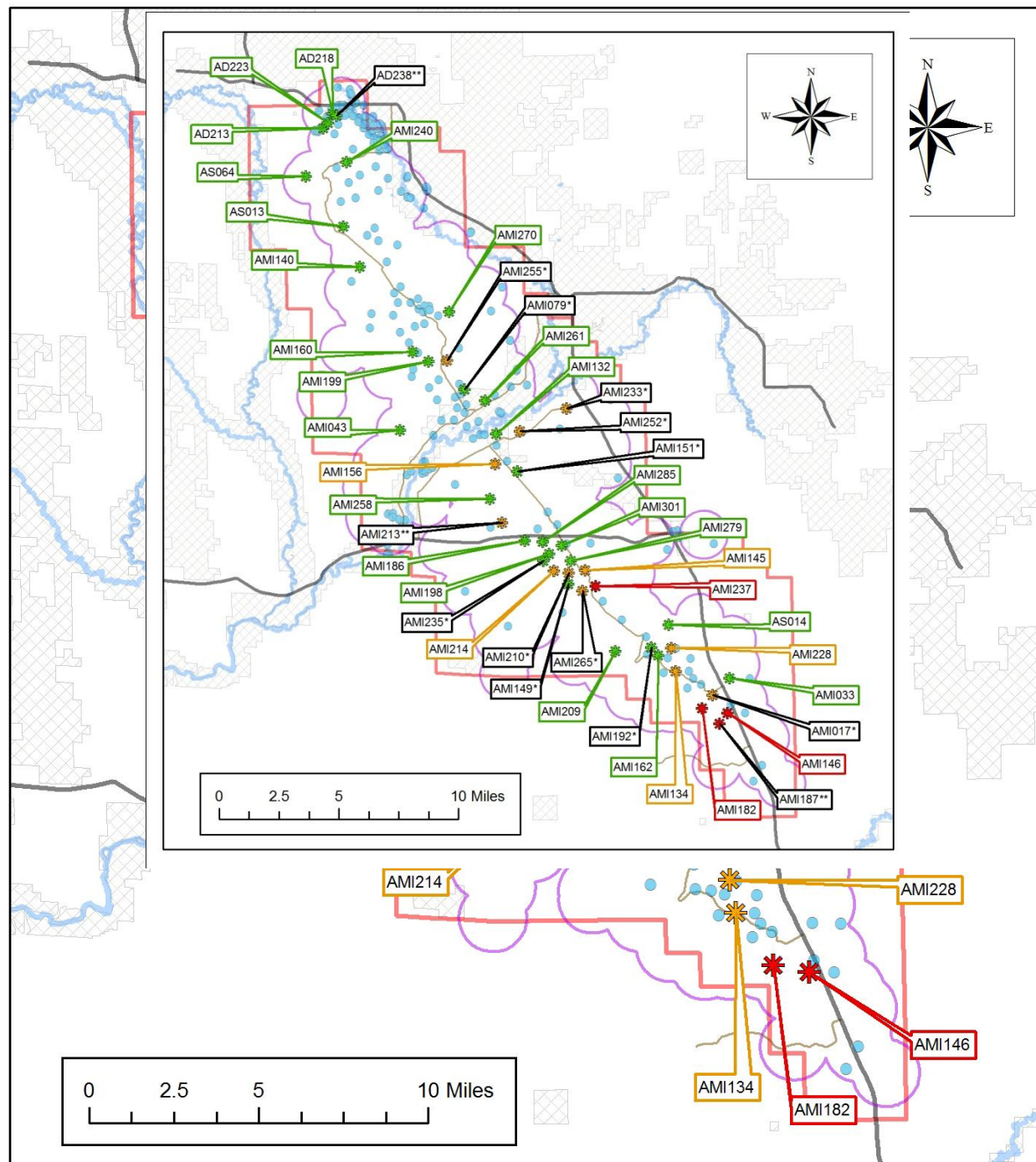
- Private lands
- Main rivers
- Main highways
- Secondary roads within PAPA
- Pinedale Anticline Project Area
- One mile sampling area
- Wells visited in 2011

\* well has been plugged & abandoned

\*\* well is no longer part of SCCD sampling program

# of wells with hydrocarbon
of those, # of wells with levels at or above WDEQ clean

# of wells with hydrocarbon
of those, # of wells with levels at or above WDEQ clean



## WDEQ / EPA Drinking Water Standards

Only wells permitted for domestic use were included in the following totals (includes domestic/stock use) / 2004 - 2011

Chloride, 250 mg/L

0 wells with levels at or above  
same as last year's total

Fluoride, 4.0 mg/L

12 wells with levels at or above  
same as last year's total

Sulfate, 250 mg/L

11 wells with levels at or above  
same as last year's total

TDS, 500 mg/L

21 wells with levels at or above  
(1 new well to the list)

## WDEQ / EPA Livestock Standards

Only wells permitted for stock use were included in the following totals (includes domestic/stock use) / 2004 - 2011

Chloride, 2000 mg/L

0 wells with levels at or above

TDS, 5000 mg/L

0 wells with levels at or above

Sulfate, 3000 mg/L

0 wells with levels at or above

# Questions?

